



Launch Mission Execution Forecast

Mission: Falcon 9 NASA Crew-4

Issued: 25 Apr 2022 / 1000L (1400Z)

Valid: 27 Apr 2022 / 0347 - 0357L (0747 - 0757Z)



Forecast Discussion: High pressure has pushed south along the Eastern Seaboard. This will relax the pressure gradient across the Space Coast and minimize the coastal shower threat. On Tuesday, the sea breeze interaction will result in isolated showers developing late in Central Florida. These showers should dissipate prior to the launch window early Wednesday morning. The next frontal boundary will move into Florida on Wednesday, before pushing south of the Spaceport on Thursday. This boundary will bring increased cloud cover and rain chances as it transits through the area. The boundary is expected to be south of the area on Friday, as high pressure builds in bringing drier air. The main weather concerns for each launch attempt will be the Cumulus Cloud Rule and Flight Through Precipitation.

Launch Day	Probability of Violating Weather Constraints ¹							
	10%	Primary Concerns: Cumulus Cloud Rule, Flight Through Precipitation						
	Weather Conditions					Additional Risk Criteria ²		
	Weather:	None	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Visibility:	7 miles	Cumulus	Scattered	3,500	8,000	Ascent Corridor Recovery:	Low
	Temp/Humidity:	70°F / 90%					Booster Recovery Weather:	Low
	Liftoff Winds (200'):	180° 12 - 17 mph					Solar Activity:	Low
24-Hour Delay	Probability of Violating Weather Constraints							
	60%	Primary Concerns: Cumulus Cloud Rule, Flight Through Precipitation						
	Weather Conditions					Additional Risk Criteria		
	Weather:	Scattered Showers	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Visibility:	7 miles	Cumulus	Scattered	3,500	8,000	Ascent Corridor Recovery:	Low
	Temp/Humidity:	65°F / 70%	Altostratus	Scattered	10,000	12,000	Booster Recovery Weather:	Low
	Liftoff Winds (200'):	040° 12 - 17 mph	Cirrostratus	Broken	20,000	25,000	Solar Activity:	Low
48-Hour Delay	Probability of Violating Weather Constraints							
	20%	Primary Concerns: Cumulus Cloud Rule, Flight Through Precipitation						
	Weather Conditions					Additional Risk Criteria		
	Weather:	Isolated Showers	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Visibility:	7 miles	Cumulus	Scattered	3,000	10,000	Ascent Corridor Recovery:	Low-Mod
	Temp/Humidity:	68°F / 80%					Booster Recovery Weather:	Low
	Liftoff Winds (200'):	060° 7 - 12 mph					Solar Activity:	Low
Notes	1. The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring anytime during the launch window.							
	2. Additional Risk Criteria, which are not included in the PoV, are mission-specific constraints that may not include all phenomena within each risk factor. See https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf for more information							
Next Forecast Will Be Issued		26 Apr 2022						